

Annual Report 2018



BCN - RESEARCH SCHOOL OF BEHAVIOURAL AND COGNITIVE NEUROSCIENCES



university of
 groningen



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BCN Annual Report 2018

The Research School of Behavioural and Cognitive Neurosciences (BCN) has as its mission to initiate and develop high-quality neuroscience research across six faculties and many more disciplines at the University of Groningen and the University of Twente (TechMed Centre). BCN aims to teach and inspire new generations of students and researchers, and to communicate to and with the larger population.

BCN was founded in 1987 and now celebrates its 32nd year. It is our pleasure to present you with an overview of last year's highlights from students and their lecturers, from junior and senior researchers and from clinicians as well as preclinical and fundamental scientists. BCN did not publish an annual report in recent years, but I think the current report shows that we are alive and kicking. We hope you will enjoy reading it, and that you will continue to invest your effort and enthusiasm in the field of Neuroscience. But first and foremost, we wish you a relaxing summer!

On behalf of the BCN board,

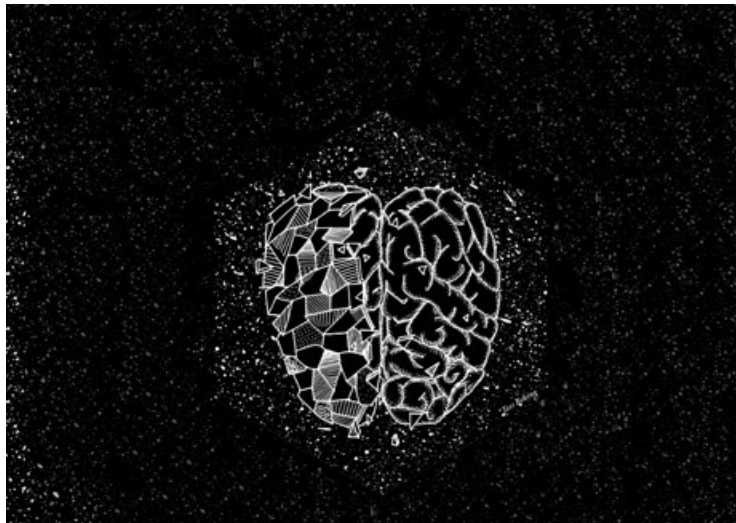
Robert Schoevers, director BCN



Robert Schoevers Photo by Antoinette Borchert

BCN's participating faculties

Who's in BCN? There are five faculties from the the University of Groningen and one faculty from the University of Twente that participate in the Research School of Behavioural and Cognitive Neuroscience (BCN). From these faculties a selection of researchers affiliated with different research institutes (see below) are active within BCN.



The Art Of Science Illustration by Tess Beking

1. The Faculty of Medical Sciences (FMW) / University Medical Center Groningen (UMCG) participates with the Research Institute Brain and Cognition.
2. The Faculty of Science and Engineering (FSE) participates with the Groningen Institute for Evolutionary Life Sciences (GELIFES): Neurobiology and Behavioural Biology, and the Johann Bernoulli Institute for Mathematics and Computer Science (JBI).
3. The Faculty of Behavioural and Social Sciences (GMW) takes part with the Heymans institute (HI).
4. The Faculty of Philosophy (FW) with its Groningen Research Institute of Philosophy (GRIPh).
5. The Faculty of Arts (LET) takes part with the Center for Language and Cognition Groningen (CLCG).
6. The University of Twente participates with the Technical Medical Centre (TechMed Centre).

> **MORE INFORMATION CAN BE FOUND HERE**

<https://www.umcg.nl/EN/Research/InstitutesProgrammes/Research-Institute-Brain-and-Cognition/Programmes/Paginas/default.aspx>

BCN's science & education

One of the core goals of BCN is to stimulate multidisciplinary research in the field of neuroscience. Within BCN we do everything we can to bring our researchers into contact with each other in order to foster creative collaborations across faculties and disciplines. The results are shown in the projects, papers, grants, and new studies that are produced each year and highlighted in this annual report.

As for our education, we are more than happy with the fact that BCN's master programme is regarded as the very best neuroscience programme in the Netherlands. The BCN Research Master's programme has been awarded with the 'Top Degree Programme' predicate several times already, and this was the case again in 2018. In issue 114 of the BCN Newsletter, Eva Teuling, the BCN programme coordinator, explained why.

> ALSO SEE

<https://www.rug.nl/news/2018/03/university-of-groningen-the-best-broad-master-university-in-the-netherlands>

9 | 38



't Kon minder! (Not bad at all):

Why BCN is the #1 Neuroscience programme in the Netherlands

As you might know, Groningers don't like to brag about themselves. But now it is time to draw some extra attention to the BCN Research Master, as the programme was nominated as a Top-Master-programme for the 5th time in a row, and BCN also came out as the #1 Neuroscience programme in the Netherlands. These data were published in the latest edition of the Keuzegids Masters in March. One of those Top-programmes is the BCN Research Master that is coordinated by the Faculty of Science and Engineering. It was the 5th time BCN was nominated as Top-programme. We think the key to the success of this programme is dependent on the following three aspects.

Small-scale education

The BCN ReMa, for short, was initiated in 2006, although BCN-courses have existed for quite a bit longer. The goal of the programme was to train neuroscientists in three specializations: Human and Animal Behavioural Neurosciences (B-track), Cognitive Neurosciences (C-track) and Clinical and Molecular Neurosciences (N-track). Next to specialised courses in one of these fields, students also receive interdisciplinary training, in small cohorts of max. 15 students per track. To maintain the high quality and small class sizes in this programme, BCN is a selective MSc-programme where students are selected on their background, motivation and grades by the Board of Admissions.

Interdisciplinary

Students in the programme usually come from disciplines such as Biology, other Life

Sciences- programmes, and Psychology, although students with different backgrounds varying from Movement Sciences and Computer Science can also be admitted. The BCN ReMa is coordinated by the Faculty of Science and Engineering (FSE) but teachers come from five faculties: mainly FSE, Faculty of Medical Sciences and Faculty of Behavioural and Social Sciences, but also courses from Philosophy and Arts can be followed as part of the programme. This approach trains students to think outside 'their' field and come up with interdisciplinary research questions.

Focus on research

BCN-students perform two large research projects during their MSc in research groups at our University, as well as at other universities in the Netherlands and abroad. Most research groups within the BCN research school have had

one or more ReMa-students working in their labs. Also, other courses in BCN are strongly research-focused, which clearly pays off given that around 75% of our graduates continue to doing a PhD. Some of our first graduates are now postdocs or group leaders at universities across the globe. Just to name one: Alain Dekker, winner of the PhD-prize at the winter meeting in 2019, graduated from BCN in 2014. More recent graduates now work on PhD-projects at the UMCG (e.g. Theresa Marschall, Minke de Boer), GELIFES (Kevin Ike, Romy Smit) or Psychology (e.g. Robbert van der Mijjn), or at other universities in the Netherlands or abroad.

We think that this unique combination of features helps BCN-teachers to optimally prepare our students for their upcoming (research) careers. Alumni indeed mention that the small groups and the experience the students get during the two master projects really helped them get a head start in their PhD-projects.

One goal for the future is to better monitor our alumni and create a community of (former) BCN-students that, also later in their careers, can help each other by sharing job opportunities or collaborations. For this, we recently started a BCN LinkedIn Group, which already gives a nice impression of current careers of our former students. In addition, the BCN Student Council



plans to organize a BCN Alumni Event every year, as the first one in November 2018 was a success.

We hope you, as a BCN Researcher will continue to supervise our students to maintain the high quality of our programme. We are currently working on a 'project database' for students to choose their research project from. If you have 5 or 6-months projects for students, starting in Jan/Feb, please contact us so we can advertise those.

On behalf of the BCN Staff,

- EVA TEULING (E.TEULING@RUG.NL)
PROGRAMME COORDINATOR BCN
- PHOTO BY MARK WINKEL



Influx of Master students

In 2018, 39 students enrolled in the BCN Research Master's degree programme, of which 74% were female.



39 Students

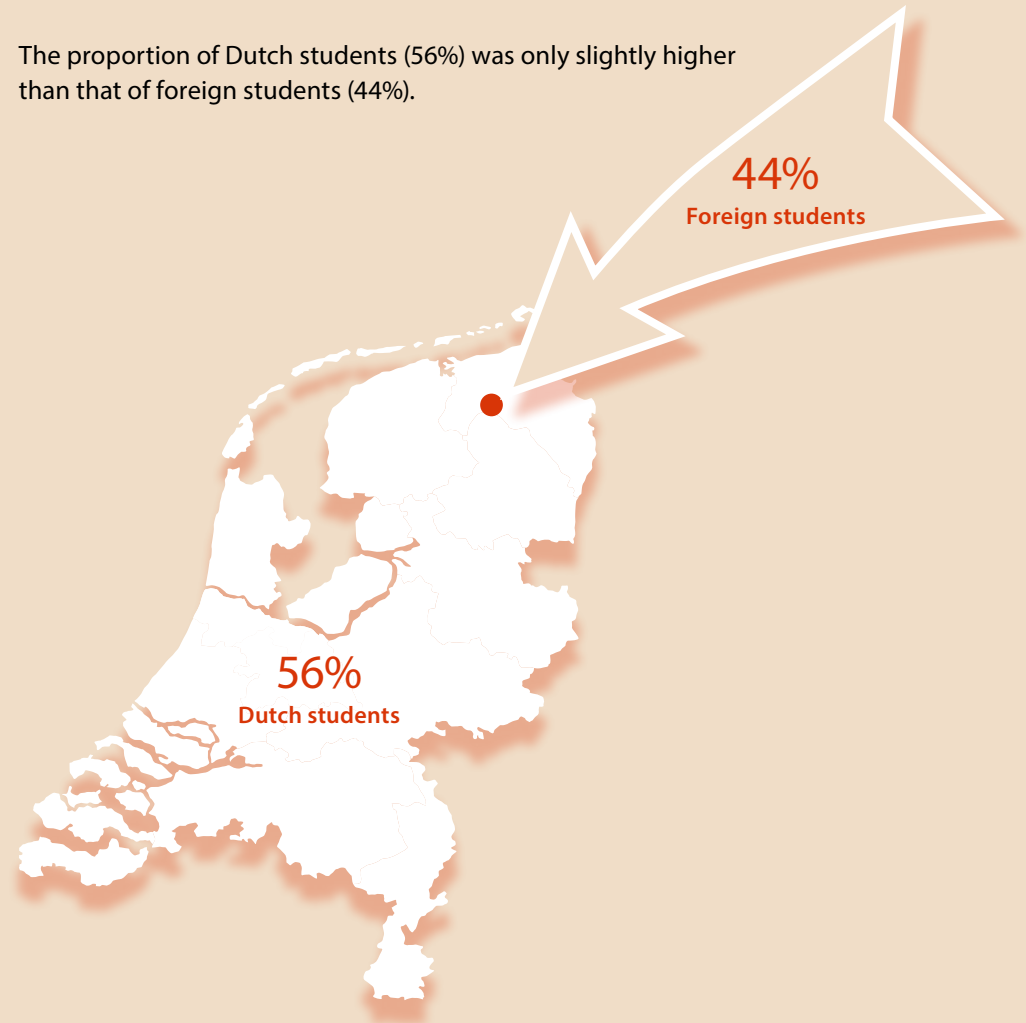


74%
Female



26%
Male

The proportion of Dutch students (56%) was only slightly higher than that of foreign students (44%).

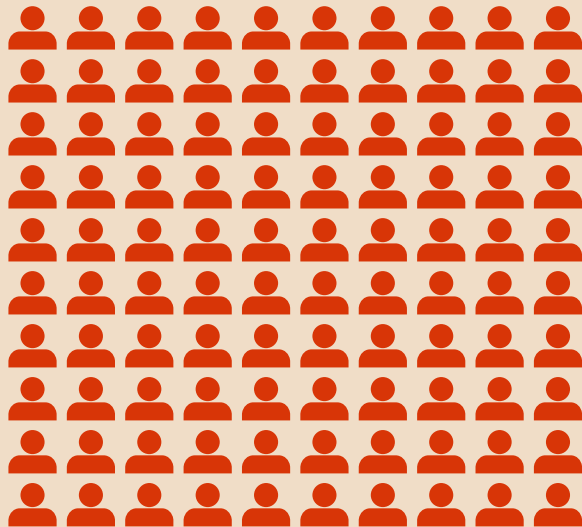


44%
Foreign students

56%
Dutch students

Influx of PhD students

In 2018, 80 PhD students enrolled in the BCN PhD training programme, of which 62.5% were women.



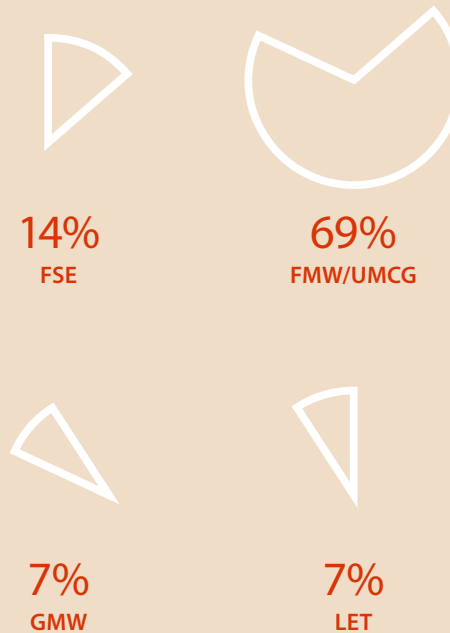
80 Students



62,5%
Female

37,5%
Male

Fourteen percent of the PhD students were from the Faculty of Science and Engineering (FSE), 69% from the Faculty of Medical Sciences/ University Medical Center Groningen (FMW/UMCG), 9% from the Faculty of Behavioural and Social Sciences (GMW) and 9% from the Faculty of Arts (LET).



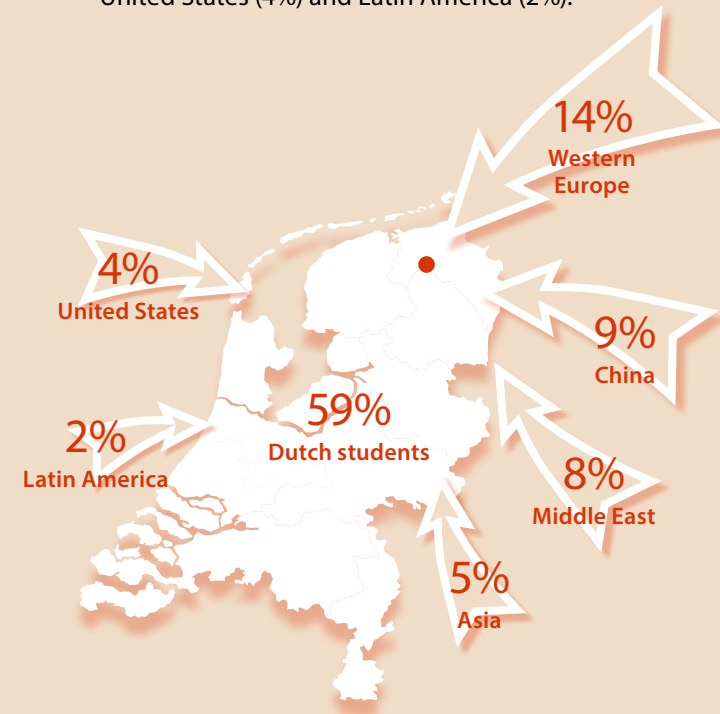
14%
FSE

69%
FMW/UMCG

7%
GMW

7%
LET

The majority of PhD students come from the Netherlands (59%), followed by Western Europe (14%), China (9%), the Middle East (8%), Asia (5%), United States (4%) and Latin America (2%).



14%
Western Europe

4%
United States

9%
China

2%
Latin America

59%
Dutch students

8%
Middle East

5%
Asia

Theses defenses

In 2018, forty-four PhD BCN students defended their dissertation, of which fourteen were special projects or external PhD candidates. Seven percent of the PhD students were from the Faculty of Science and Engineering (FSE), 75% from the Faculty of Medical Sciences/University Medical Center Groningen (FMW/UMCG), 11% from the Faculty of Behavioural and Social Sciences (GMW) and 7% from the Faculty of Arts (LET).

> A MORE DETAILED OVERVIEW IS AVAILABLE HERE

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/organisation/dissertations2018>



Photo by Sander Martens

A close-up photograph of a leopard's face, showing its distinctive orange and black rosette-patterned fur. The leopard's eyes are partially visible, looking towards the viewer.

Cheeky propositions

"Experience is what you get when you didn't get what you wanted."

> Birgit Honrath
BCN Newsletter issue 109

"Success is the ability to go from one failure to another with no loss of enthusiasm." – Winston Churchill

> Rodi Zutt
BCN Newsletter issue 110

"An investment in knowledge pays the best interest."

> Benjamin Franklin (Xiaoming Zhang)
BCN Newsletter issue 111

"Oan de ein fan de fûke fangt men de fisk." ["It's only at the very end of the fish-trap that one catches the fish"] – Frisian proverb

> Sjoerd van Belkum
BCN Newsletter issue 112



Prize cabinet

**BCN members were very successful in obtaining numerous prizes and grants.
An impression of a good year...**

Marie-José van Tol was awarded with the Early Career Award from the International Neuropsychological Society in February 2018. After the summer, she was awarded with the Heineken Young Scientists Award 2018 by the Royal Netherlands Academy of Arts and Sciences (KNAW) in the domain of Social Sciences. On top of that, she was admitted to the Young Academy, part of the Royal Society (KNAW). Van Tol is researcher at the UMCG and a member of the Young Academy Groningen. The awards recognize her research on the many factors that contribute to depression and other psychiatric disorders.

> YOU CAN FIND AN INTERVIEW WITH
MARIE-JOSÉ IN ISSUE 96

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter96.pdf>



Marie-Jose van Tol Photo by Sander Martens

Brain researcher **Alain Dekker** of BCN received the Wierenga-Rengerink prize for the PhD student who wrote the best RUG dissertation of the year. Alain received this prize for his thesis "Down & Alzheimer: Behavioural biomarkers of a forced marriage", for which he was promoted cum laude on November 15, 2017.



Alain Dekker Photo by Sander Martens

Hedderik van Rijn was proclaimed the Teacher of the Year BCN Research Master, Teacher of the Year Psychology, and Teacher of the Year GMW.

> YOU CAN FIND AN INTERVIEW WITH HEDDERIK IN ISSUE 106
<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter106.pdf>



Hedderik van Rijn Photo by Sander Martens

Joke Spikman from the Department of Neurology received the 2018 Betto Deelman prize. She was awarded this prize because of her excellent scientific contributions to the field of neuropsychology.



Joke Spikman Photo by umcg.nl

BCN Awards

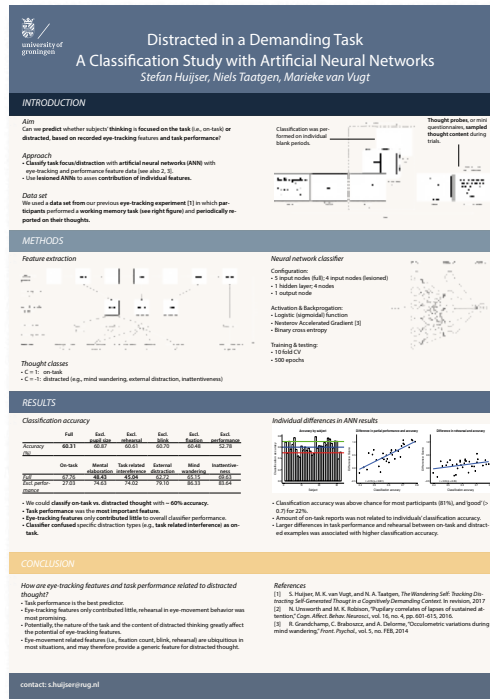
Awarded during the BCN Winter Meeting 2018:

BCN DISSERTATION AWARD 2016/2017
Meghan Laturney

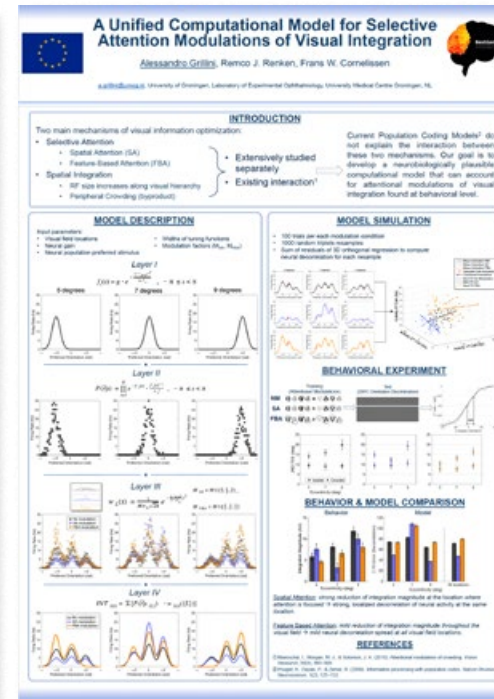
BCN DISSERTATION SUMMARY AWARD
Florian Sense

BCN POSTER PRIZES
Stefan Huijser
Alessandro Grillini
Deepika Patel

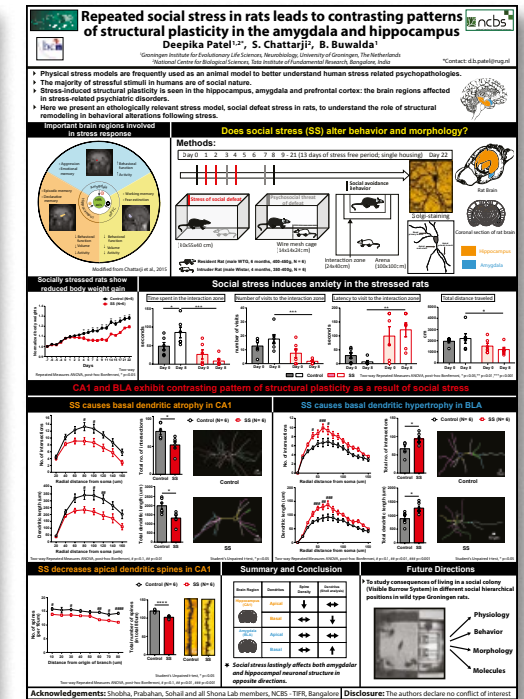
BCN BEST PRESENTATION AWARD
Juliana Feiden



Stefan Huijser



Alessandro Grillini



Deepika Patel

Grants (selection)

The largest research grant ever given for neurodevelopmental conditions (115 M) has been awarded by the Innovative Medicines Initiative to an international consortium academically led by the Institute of Psychiatry, Psychology & Neuroscience (IoPPN) at King's College London. BCN member Martien Kas (GELIFES) is a project partner of this large EU grant on Autism Spectrum Disorders.

Also his ZonMW Memorabel project was granted on dementia.

<https://publicaties.zonmw.nl/het-gezicht-van-dementieonderzoek/interview-martien-kas/>

You can find an interview with Martien in issue 107.

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter107.pdf>

Merel Keijzer was awarded with a VIDI grant for her research on the effectiveness of foreign language learning for healthy older people and for those with mild cognitive impairment and late-life depression.

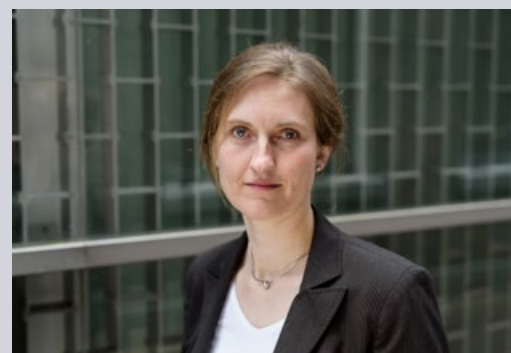
www.rug.nl/news/2018/06/nine-ug-researchers-receive-vidi-grant

You can find an interview with Merel in issue 105.

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter105.pdf>



Martien Kas Photo by Anna Leonte



Merel Keijzer Photo by Ronald Zijlstra

Inge Holtman from the Department of Biomedical Sciences of Cells and Systems received a Veni scholarship of € 250.000 to do scientific research about the role of immune cells of the brain with Alzheimer disease.

Jojanneke Bastiaansen and Harriette Riese from the UMCG's Interdisciplinary Center Psychopathology and Emotion regulation (ICPE) received € 800.000 for their research into depression.

Elkan Akyürek from the Faculty of Behavioural and Social Sciences (Experimental Psychology) received a grant from the European Open Research Area for the Social Sciences (ORA) for his research on working memory.

You can find an interview with Elkan in issue 111.

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter111.pdf>

With the research "Hoe ontstaat MS?", the MS Centrum Noord Nederland received a grant of € 100.000. The money is provided by the 'Stichting Klimmen tegen MS'. Both Ming Cao (Faculty of Science and Engineering) and Catarina Dutilh Novaes (philosophy), have been awarded with ERC Consolidator Grants. The European Research Council (ERC) awards these personal grants, each worth € 2 million, to outstanding scientists, stimulating ground-breaking research in Europe.

Kat Bebbington (Groningen Institute for Evolutionary Life Sciences, Faculty of Science and Engineering) has been awarded with a NWO VENI grant for her research on the role of prolactin in parental conflict over parental care. From the same group, Jean-Christophe Billeter obtained an NWO open competition grant on the neurogenetics of sexual conflict in drosophila. And last but not least, Roelof Hut and a consortium of colleagues were awarded with an International Training Network grant on comparative insect chronobiology (see <https://cinchron.org> for more information).



Marina de Koning-Tijssen Photo by Sander Martens

The Center for Medical Imaging (CMI) at the UMCG has been awarded an EUR 1.5 million grant from ZonMW for its CT-scan screening for three common diseases: lung cancer, lung emphysema and cardiovascular disease. These three diseases together are responsible for the highest mortality and morbidity rates and form the greatest economic burden for healthcare in the Western world. They are therefore also known as the Big 3.

Marina de Koning-Tijssen was awarded with a ZONMw TOP subsidy (€ 675.000). Her research group will investigate patients with movement disorders using artificial intelligence and other innovative techniques to find new ways to diagnose and treat these disorders.

You can find an interview with Marina in issue 114.

<https://www.rug.nl/research/behavioural-cognitive-neurosciences/news/bcn-newsletter114.pdf>

BCN's media exposure

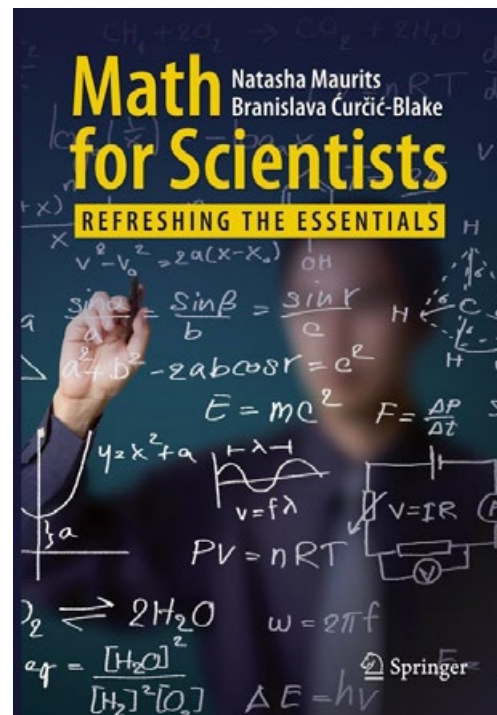
BCN's researchers have also been very active in speaking to the public through newspapers and online media, through books for general and specialist readers, and through TV and radio presentations.

Books by BCN staff

Math for Scientists - Refreshing the Essentials (Natasha Maurits and Branislava Curcic-Blake)

Je brein de baas (André Aleman)

De zeven zintuigen (Iris Sommer)



Online media & television

Robbert Havekes at TEDx DenHelder - Sleep deprivation and memory problems (Video)

<https://www.youtube.com/watch?v=F39IBJZlsek>

Vlog Marie-José van Tol: is het nou eindelijk klaar met die winterdepressie? (source: dvhn.nl)

<https://www.dvhn.nl/groningen/Video-is-het-nou-eindelijk-klaar-met-die-winterdepressie-23042470.html>

Ketamine treatment at University Center Psychiatry (UCP) and Cognitive Neuroscience Center (CNC) on national television

https://www.umcg.nl/NL/UMCG/Afdelingen/Universitair_Centrum_Psychiatrie/Nieuws/Paginas/dokters-van-morgen.aspx

Many BCN researchers can be found on youtube.

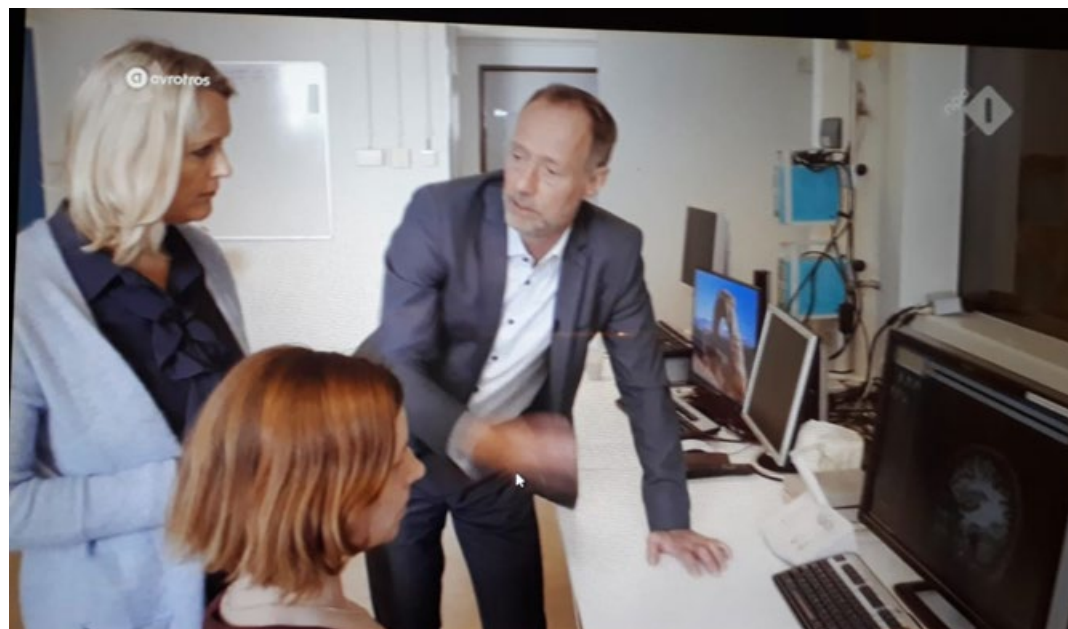
<https://www.rug.nl/research/behavioural-cognitive-neurosciences/organisation/bcn-researchers-on-youtube>



Marie-José van Tol



Robbert Havekes



UCP in television show

Other activities & events

Royal academy of science

On King's Day, with the King visiting our beloved city, Groningen briefly changed into the media-capital of the Netherlands, so it was the perfect opportunity for the university to showcase itself. No less than our very own Nobel-prize winner Ben Feringa gave the royal family a lecture about his nano-car, while the Young Academy including several BCN researchers invited the general public to participate in various spectacular experiments that were performed with much enthusiasm.



Photos by Sander Martens

15th anniversary of the Neuroimaging Center (NIC)

On September 26th 2018, the NIC celebrated its 15th birthday by organizing a symposium with four internationally renowned speakers at DOT. Former director Gert ter Horst was given a sculpture by the new director André Aleman. André also revealed the new name of the research facility: The Cognitive Neuroscience Center (CNC). The new name indicates that the center offers a range of techniques (e.g., EEG, TMS, microTMS, tDCS, NIRS, eye-tracking, pupil dilation deconvolution) and expertise to the BCN research community that goes beyond just fMRI.



Photo by Sander Martens

Other symposia that were organized include

BCN Symposium: Society for Light Treatment & Biological Rhythms - 30th Annual Meeting and Anniversary Event, took place on June 22-24, 2018

From 9-13 July 2018, the Multiple Approaches to the Perception of Speech (MAPS) summer school was organized in Groningen, The Netherlands. Several BCN researchers from different BCN research institutes were involved in this summer school.

<https://www.rug.nl/education/summer-winter-schools/summer-schools-2018/maps/>

From 1-11 July 2018, the Summer School Translational Neurosciences 'Ageing Brain' was organized.

<https://www.rug.nl/research/gradschool-medical-sciences/summerschools/ageing-brain/>

From 27-29 Augusts 2018 BIOROB 2018 (The 7th IEEE RAS/EMBS International Conference on Biomedical Robotics and Biomechatronics) was organized in Enschede.

<https://www.biorob2018.org/>

From 27-31 August 2018, the U4 Summer School on Clinical and Translational Neuroscience was organized in Göttingen, Germany.

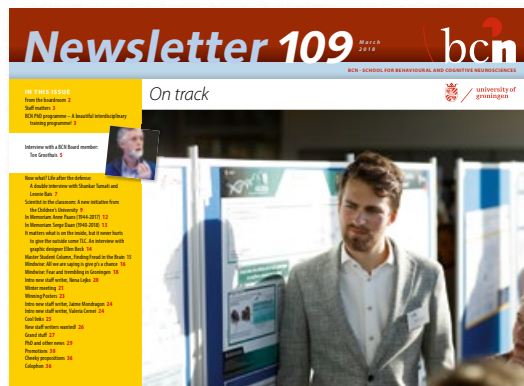
<http://www.u4network.eu/index.php/news/2689-review-u4-summer-school-on-clinical-and-%20translational-neuroscience-goettingen-27-31-aug-2018>



BCN Symposium Photo by Sander Martens

BCN Newsletter

And last but not least we had four beautiful newsletters!



We wish you a great summer holiday break!

Colofon

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